AMENDMENTS TO THE CLAIMS

1. (Currently amended) A cache, comprising:

a front-end interface that receives data access requests that specify respective data storage addresses;

a back-end interface that can retrieve data identified by the data storage addresses;

cache storage formed by at least two disks; and

a cache manager that services at least some ~~one~~ of the requests received at the front-end interface using data stored in the cache storage ~~on said at least two disks~~:

_____ where said cache manager stores, in response to detecting a power failure, identification data identifying addresses within said cache storage where data is stored and the corresponding addresses at a back-end storage area where the data is stored.

2. (Original) The cache of claim 1, wherein the front-end interface comprises an interface conforming to a protocol.

3. (Previously presented) The cache of claim 2, wherein the protocol comprises at least one of the following: SCSI (Small Computer System Interface), Fibre Channel, INFINIBAND, and IDE (Integrated Device Electronics).

4. (Original) The cache of claim 1, wherein the disks comprise disks having platters less than 3.5 inches in diameter.

5. (Original) The cache of claim 4, wherein the disks comprise disks having at least one of the following platter sizes: 2.5 inches, 1.8 inches, and 1 inch in diameter.

6. (Original) The cache of claim 1, wherein the cache implements a RAID (Redundant Array of Independent Disks) scheme using the disks.

7. (Original) The cache of claim 1, wherein the cache performs at least one of the following operations: requesting data from a back-end storage system, retrieving requested data

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from the disks, sending data to the back-end system for writing, determining the location of back-end system data within the disks, and removing data from the disks.

8. (Original) The cache of claim 1, wherein the addresses specify storage locations of a back-end storage system that includes a collection of one or more disks.

9. (Original) The cache of claim 1, wherein the requests comprise I/O (Input/Output) requests.

10. (Original) The cache of claim 1, wherein the data storage addresses comprise data storage addresses within an address space.

11. (Original) The cache of claim 10, wherein the address space comprises an address space of back-end storage.

12. (Original) The cache of claim 10, wherein the address space comprises an address space of a different cache.

13. (Original) The cache of claim 1, wherein the cache storage comprises cache storage having more than one disk spindle.

14. (Currently amended) A method of servicing data access requests at a cache, the method comprising:
    receiving the data access requests at the cache, the cache having cache storage formed by at least two disks, the requests specifying respective data storage addresses; and
    servicing at least some one of the requests using data stored in the disks on said at least two disks;
    where servicing further comprises storing, in response to detecting a power failure, identification data identifying addresses of data stored within said cache storage and the corresponding addresses at a back-end storage area where the data is stored.

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15. (Original) The method of claim 14, wherein the requests comprise requests conforming to a protocol.

16. (Previously presented) The method of claim 15, wherein the protocol comprises at least one of the following: SCSI, Fibre Channel, INFINIBAND, and IDE.

17. (Original) The method of claim 14, wherein the requests comprise at least one read request.

18. (Original) The method of claim 14, wherein servicing the requests comprises retrieving data from the back-end storage and storing the data in at least one of the disks.

19. (Original) The method of claim 18, wherein storing the data comprises storing the data in accordance with a RAID scheme.

20. (Original) The method of claim 14, wherein servicing the requests comprises determining whether the collection of disks currently stores the requested data.

21. (Original) The method of claim 14, wherein the data storage addresses comprise data storage addresses within an address space.

22. (Original) The method of claim 21, wherein the address space comprises an address space of a back-end storage system formed by a collection of disks.

23. (Currently amended) A data storage system, comprising:

a back-end storage system having an address space, addresses in the address space identifying blocks of storage; and

a cache for the back-end storage system having a lesser storage capacity than the back-end storage system, the cache including:

a front-end interface that receives I/O (Input/Output) requests that specify respective addresses of back-end storage blocks;

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a back-end interface that communicates with the back-end storage system;

cache storage formed by at least two disks having platter diameters less than 3.5 inches; and

a cache manager that services at least some ~~one~~ of the I/O requests received via the front-end interface using blocks temporarily stored in the cache storage ~~on said at least two disks~~:

where said cache manager further stores, in response to detecting a power failure, identification data identifying addresses of data stored within said cache storage and the corresponding addresses at said back-end storage area where the data is stored.

24. (Canceled)

25. (Previously presented) The cache of claim 1, wherein said cache further comprises at least one interface conforming to a protocol to allow at least one additional disk to be connected to said cache storage.

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Previously presented) The data storage system of claim 23, wherein said cache further comprises at least one interface conforming to a protocol to allow at least one additional disk to be connected to said cache storage.

31. (Canceled)

32. (Currently amended) A data storage system, comprising:

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a back-end storage system having ~~an~~ <u>a back-end</u> address space, addresses in the address space identifying blocks of storage; and

a plurality of caches for the back-end storage system, each of said plurality of caches having a lesser storage capacity than the back-end storage system, each of said plurality of caches including:

a front-end interface that receives I/O (Input/Output) requests that specify respective addresses of back-end storage blocks;

a back-end interface capable of communicating with one of back-end storage system and another of one of said plurality of caches;

cache storage formed by at least two disks<u>, said cache storage having a respective cache storage address space</u>; and

a cache manager that services at least <u>some</u> ~~one~~ of the I/O requests received via the front-end interface using blocks temporarily stored ~~on said at least two disks~~ <u>in the data storage system, said at least some of the I/O requests corresponding to addresses in said respective cache storage address space of at least some of said plurality of caches</u>.

33. (Canceled)

34. (Previously presented) The data storage system of claim 32, wherein:

said plurality of caches are connected in series such that the front-end interface of one of said of plurality of caches is coupled to the back-end interface of another of said plurality of caches;

the front end interface of one of said plurality of caches is coupled to a device making said I/O requests; and,

the back-end interface of one of said plurality of caches is coupled to said back-end storage system.

35. (Previously presented) The data storage system of claim 34, wherein upon receiving one of I/O requests at said front-end interface of one of said plurality of caches, the cache manager of said one of plurality of caches sends data corresponding to said one of I/O requests to

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said device making said one of I/O requests if said data is stored on the cache storage of said one of plurality of caches.

36. (Previously presented) The data storage system of claim 34, wherein upon receiving one of I/O requests at said front-end interface of one of said plurality of caches, the cache manager of said one of plurality of caches sends said one of I/O requests to one of back-end storage and another of said plurality of caches coupled to the back-end-interface of said one of plurality of caches if said data is not stored on the cache storage of said one of plurality of caches.

37. (Previously presented) The data storage system of claim 32, wherein each of said plurality of caches further comprises at least one interface conforming to a protocol to allow at least one additional disk to be connected to said cache storage.

38. (Currently amended) The data storage system of claim 32, wherein said cache manager of each of said plurality of caches further stores, upon detection of a power failure, identification data identifying addresses of data stored within the corresponding cache storage of each of said plurality of caches and the corresponding addresses at said back-end storage area where the data is stored.

39. (New) The cache of claim 1, where said identification data corresponds to cache locations of deferred writes.

40. (New) The method of claim 14, where said identification data corresponds to cache locations of deferred writes.

41. (New) The data storage system of claim 23, where said identification data corresponds to cache locations of deferred writes.

42. (New) The data storage system of claim 38, where said identification data corresponds to cache locations of deferred writes.

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